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REMARKS/ARGUMENTS

Claims 1-30 stand rejected in the outstanding Final Rejection. Claims 6 and 19 have been cancelled without prejudice and claims 1, 15 and 28 amended. Therefore, claims 1-5, 7-18 and 20-30 are the only claims remaining in this application.

Applicants have cancelled without prejudice the subject matter of claims 6 and 19 and added the limitations of those previously dependent claims into independent claims 1 and 15, respectively. Additionally, the subject matter of independent claim 28 has been modified to include the limitations of claims 6 and 19 therein. The preamble of claim 28 has also been amended to place it in a form more consistent with Patent Office preferred form when claiming a computer program product (as suggested in U.S. Patent 6,836,860). Therefore, all of Applicants' independent claims (apparatus claim 1, method claim 15 and computer program product claim 28) now require that the reference timestamp data and the local timestamp data are associated with a plurality of points in the at least two trace data streams. This limitation previously presented in dependent claim 6 has support in Applicants' specification, page 12, line 11 through page 13, line 2 and the disclosure contained in Figures 5B and 5C of the application as originally filed.

On page 2 of the outstanding Official Action, the Examiner rejects claims 1-30 under 35 USC §102(e) as being anticipated by Sahin (U.S. Patent 6,769,054). Applicants believe that the limitation of former claims 6 and 19 which is now incorporated into independent claims 1, 15 and 28 clearly distinguishes the Sahin patent from the currently claimed invention. This limitation specifies that the data processing system outputs both reference timestamp data and local timestamp data which is associated with a plurality of points in said trace data streams.

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To appreciate why the Sahin reference does not suggest the claimed invention (and, indeed, teaches away from the claimed invention), it may be helpful to discuss what Sahin actually does disclose. In the Sahin reference at column 20, lines 4-31, which discusses Figure 9, the disclosure is that trace data is sourced from "each host interface port" (port A or B on each host channel director (155, 157) as shown in Figure 1), and it is collected at a number of sample times t_i. In the Sahin system, each item of trace data is labeled with both a timestamp and the channel director/port from which it was received at the data storage system 150, and this information is used to play back the trace data inputs and outputs at a later time.

Sahin at column 20, lines 22-26 discloses that each trace data channel "in the preferred embodiment has [its] own clock" and that these clocks "must be synchronized" (emphasis added). Each trace buffer event has a timestamp that comes from each director (the host channel director 155 or 157 in Figure 1). Sahin at column 20, lines 28-31 teaches that each channel director "puts its on-time clock stamp and identifier" which is then "synchronized to a global time for replay." Sahin at Figure 9 shows a single timestamp associated with each trade data sample.

While the exact operation of the Sahin system is somewhat vague and may not be clear, it is certain that Sahin does not disclose that **both** reference timestamp data and local timestamp data are output with the trace data stream. The timestamps in Figure 9 of Sahin are either simply sampling times or are timestamps generated by a local clock associated with the respective channel of trace data.

With respect to the rejection of claim 6 discussed on page 3, lines 10-12 and the claim limitation that "at least two local clock sources associated with respective ones of said at least

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two trace data sources," the Examiner appears to contend that this is disclosed by the Sahin

reference at column 20, lines 28-30. However, Sahin specifically states "each director puts its

on-time clock stamp and identifier which can then be synchronized to a global time for replay."

This is a clear indication that each channel director (155 and 157 in Sahin Figure 1) generates an

on-time and an associated identifier. This is not a disclosure of Applicants' claimed "local

timestamp data associated with said point [or in amended claim 1 said "plurality of points"] in

said trace data streams." In fact, a detailed review of Sahin's column 20, lines 4-31 discloses

only a single type of timestamp data, i.e., the timestamps generated by the clocks associated with

each channel and listed in the table of Figure 9.

Because the Sahin reference fails to disclose the subject matter of previous claim 6 which

has now been added to independent claims 1 and 15 (and has been added to independent claim

28 as well), there is no support for the allegation that every claimed structure in independent

claims 1, 15 and 28 is disclosed in Sahin.

In fact, a detailed review will show that Sahin actually "teaches away" from the claimed

invention. Note that Sahin at column 20, lines 22-24 specifies that the channel clocks "must be

synchronized" which specifically teaches away from the present independent claims having two

different types of timestamp data, i.e., local timestamp data and reference timestamp data.

Clearly the purpose of having both types of timestamp data in the present invention is to allow

cross-correlation of trace events in different trace data streams. This is not possible in Sahin and

Sahin's mechanism would lead one of ordinary skill in the art away from this approach.

The present invention addresses the problem of providing an efficient manner in which to

temporarily correlate trace data from two different trace data streams, thereby enabling the

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temporal correlation of trace events between two different trace data streams. The present application solves this problem by providing both local timestamp data and reference timestamp data associated with a plurality of points in the trace data streams. As discussed in Applicants' specification on page 4, lines 29-34, this provides for efficient temporal correlation of trace data output by different trace data sources and aids interpolation between points in the trace data stream for which reference timestamp data is available. This is also shown in Figures 5 and 6 and the portion of the specification discussing those figures. The fact that in the presently claimed invention both reference timestamp data and local timestamp data is available means that there is no need for the synchronization of local clocks as required by Sahin in order to temporally correlate the data from the different trace data sources.

Additionally, the present invention can accurately cross-correlate reference timestamp data and local timestamp data to establish relative timings of trace events from different trace data streams even when the local clocks have different clock speeds, the relative speeds of the local clocks changes with time or one of the local clocks is temporarily stopped. Because the Sahin system relies upon synchronization of director clocks that generate the timestamps, it clearly cannot provide accurate information in any of the three situations where the present application continues to provide accurate relative timings of trace events. Quite clearly, the Sahin system not only fails to disclose Applicants' claimed invention set out in independent claims 1, 15 and 19, it would actually lead one of ordinary skill in the art away from the claimed invention (because it teaches the need for synchronized clocks).

As a result of the above, Sahin clearly fails to support a rejection of independent claims 1, 15 and 28 (and all claims dependent thereon) because it does not disclose each and every claimed

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structure and each and every claimed interrelationship between structures. Any further rejection

of claims 1, 15 and 28 and claims dependent thereon is respectfully traversed.

Entry of the Amendment under Rule 116

Entry of the above amendment pursuant to the provisions of 37 CFR 1.116 is respectfully

requested. The above amendment does not add new matter to the present application and clearly

adds the limitations of dependent claims 6 and 19 to independent claims 1 and 15 (and

independent claim 28). Inasmuch as claims 6 and 19 were previously dependent on claims 1 and

15, respectively, and were considered in detail in the Final Rejection, the inclusion of these

limitations in the independent claims 1 and 15 does not raise any new issue requiring further

consideration and/or search.

Moreover, the cancellation of pending claims 6 and 19 reduces the issues on appeal. In

fact, the limitations contained in these claims and now written in independent claims 1, 15 and

28 are believed to clearly render all claims patentable over the cited Sahin reference, thereby

eliminating the need for appeal. It is respectfully requested that pursuant to the provisions of

Rule 116, the above amendment be entered and this case allowed, thereby obviating the need for

pursuing an appeal.

It is respectfully requested that the Examiner contact Applicants' undersigned

representative (telephone 703-816-4028 or e-mail at scs@nixonvan.com) as soon as possible in

order to indicate the disposition of this Rule 116 Amendment so that Applicants may avoid the

need to incur extension of time petition fees during further prosecution of this application.

Having responded to all objections and rejections set forth in the outstanding Official

Action, it is submitted that claims 1-5, 7-18 and 20-30 are in condition for allowance and notice
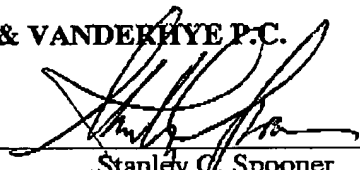
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to that effect is respectfully requested. Should the Examiner be of the opinion that a brief

telephone or personal interview will facilitate allowance of one or more of the above claims, he

is respectfully requested to contact Applicants' undersigned representative.

Respectfully submitted,

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